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Promoting Learner Autonomy in Learning English Listening Skills through Mobile-Assisted Applications

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Abstract

The use of mobile-assisted applications such as Listen to English Daily Practice, LearnEnglish Podcasts, and VOA Learning English: AI+ has significantly contributed to learners' improvements in English skills. This mixed methods research aimed to investigate how mobile-assisted applications promote learner autonomy in and beyond English listening classes. To serve the research purposes, the study employed a two-month experimental teaching, class observations, two sets of questionnaires, and interview responses. The findings revealed that students showed a higher level of engagement, motivation, and responsibility in their learning. Moreover, students expressed their purposeful selection of learning content and effective use of their learning strategies, resulting in better listening competence. Most of them shared their positive attitudes toward the use of mobile-assisted applications. However, the students still revealed some difficulties, such as the insufficiency of teachers' supervision and feedback, as well as the gradual decrease in students' persistence and commitment to using those applications. Therefore, some pedagogical implications were suggested to help students mitigate some barriers and drawbacks and maximize the quality of learning English listening using mobile-assisted applications.

Keywords: mobile-assisted applications; learner autonomy; listening skills

Introduction

With the rapid development of current society, people using state-of-the-art devices to integrate into their learning are increasingly popular. According to BankMyCell (2022), mobile user statistics show that approximately 91% of the world's population owns a smartphone. Additionally, mobile use has undoubtedly brought many significant benefits to users in all aspects of life. With a Wi-Fi connection, people can access enormous information storage anytime and anywhere. Mobile phones have been designed as an intelligent tool with multifunctions (Godwin-Jones, 2011). In order to promote the practice and interaction between learners and the contents in class or in the coursebook, mobile application systems were created and shared a place where learners can learn at their convenient time to rehearse outside the classroom (Kukulska-Hulme, 2009; Traxler, 2009). This helps students develop their autonomous learning, which has been considered one of the vital elements to boost lifelong learning according to the fourth goal of the Sustainable Development Goals.

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What is more, the Ministry of Education and Training (MOET) (2020) indicated in a legal documentary that it is necessary to strengthen technological application in teaching and learning activities and scientific research with the aim of increasing education and training quality. In addition, Katemba (2019) claimed that schools require teachers to apply technology as much as possible, especially during classroom teaching time.

Listening has been one of the most difficult skills so far; however, it receives the least attention in class (Osada, 2004). Listening is construed as a process of comprehending the meaning of incoming data and conveying messages orally in another way (Gu, 2018). Listening helps people to increase their understanding of the world, create successful communication (Rost, 2009), and make interactions between speakers more effective (Gu, 2018). Jafari and Hashim (2012) stated that more than 50 percent of those who have been learning English as a foreign language spent most of their time learning listening. It proves that learners recognize the significance of this skill. Nevertheless, learners face listening challenges as well as obstacles that hinder them in mastering listening proficiency. For instance, Hamouda (2013) indicated that learners have difficulties in listening skills because of their anxiety, pronunciation, and speed of speech. Additionally, he said that their own poor vocabulary and mastery of grammar, speakers' accents, lack of concentration, and poor-quality recordings are primary reasons contributing to their listening capacity. Listening problems, including the listening text, noise, poor quality listening equipment, and speech rate, were demonstrated in Assaf's (2015) study. Mahmoud and Ahmed (2020) pointed out that their students face misunderstandings of idiomatic expressions and complicated grammar structures.

Hence, using mobile-assisted language learning (henceforth, MALL) is an effective way to help learners improve their listening skills to the fullest extent. According to Holden and Sykes (2011), mobile learning technologies "help produce learning that is personally customized, socially constructed, and which extends beyond the classroom" (p. 4). In addition, mobile-assisted learning is a supportive way to develop students' autonomy and independence (Chen, 2016; Liu & He, 2015). Chen (2016) emphasized that "Mobile learning apps provide multiple channels and modalities for adult learners to practice language skills" (2016, p. 40).

Many studies show that mobile applications (English Learning App, BBC Learning English, etc.) enhance learners' listening capacity, promote their autonomous learning and other language areas such as vocabulary and speaking (Suresh, 2017; Salin, 2019; Yang, 2020; Jaelani, 2022; Tran et al., 2020). Saeidi and Mozaheb (2012) also pointed out that MALL provides learners with the capacity to develop learning purpose, strengthen learners' association, and collaborate with class members with the instructors. MALL incorporated in traditional classes improves teaching and learning quality and gains learners' interests. Aljohani, Davis, and Loke (2012) gave an opinion that MALL develops classroom advantages among learners, including interaction development, teamwork development, communication enhancement, and student and teacher collaboration. MALL, hence, has been an efficient tool to boost the learning process in general and support listening skills to some extent.

Literature review

Definition of learner autonomy

The definition of learner autonomy was mentioned in the early period of education, which was referred to the "ability to take charge of one's own learning" (Holec, 1981, p. 3). Learners, in other words, decide what they have to learn and take responsibility for their learning to achieve given goals. Autonomy is the attribute of learners who make a decision on their mode of learning. The term 'learner autonomy' is interchangeably used by another term, that is, 'autonomous learning'. Cotterall (2000) added that students accomplish their sense of responsibility for learning not only inside the class but also outside the classroom. Learning needs to be conducted comprehensively in different space and time. Benson (2011) defined learner autonomy as "the capacity to take control of one's own learning" (p. 58). Instead of using the word 'ability' as in Holec's (1981) definition, Benson chose the word 'capacity' to express a sufficient meaning because, in his concept, learners have to learn actively, experience, and understand what they are studying.

Generally speaking, learners themselves determine the learning objectives, know how to choose appropriate techniques and methods to deal with learning situations as well as tasks, and evaluate what they have learnt during inside and outside the classroom (Dafei, 2007; Benson & Huang, 2008; Benson, 2011). Accordingly, Benson (2011) indicated the degree or level in which autonomy's development is different from lower to higher level. Specifically, learners who have a higher level of autonomy are more independent and proactive in their own learning than those who obtain a lower level of autonomy. Littlewood (1999) pointed out two principles of taking learners' own learning, including proactive and reactive autonomy. Proactive autonomy prevails because learners must carefully consider learning objectives and choose the learning techniques to support their progression. Learners always have to be active and engage directly into their learning progress. Reactive learners, on the other hand, wait for the learning to take place and have a reaction to it. In the current study, Benson's (2011) concept of learner autonomy is used throughout to investigate students' responsibility for their own learning in the real context.

Stages of learner autonomy

On the one hand, Dang (2012b) described the process of learner autonomy with three precise steps: initiating, monitoring, and evaluating. In particular, the initial stage attains learners' traits in which they understand their learning preferences, make a choice on their learning objectives, outline study plans, and seize opportunities during their learning process (p. 57). The second stage is the 'monitoring process' in which learners themselves accomplish the learning missions and have more chances to interact with their teacher and peers. This stage provides learners with breakthroughs in reacting critically. The last process is evaluation, which aids learners in comparing what they have done with the learning outcomes and recognizing their mistakes.

Nunan (2014), on the other hand, gave a comprehensive five-step model approach to developing learner autonomy, namely awareness, involvement, intervention, creation, and transcendence. The first step, which is 'awareness', allows learners to learn about the course learning objectives and contents with the teacher's assistance. In this stage, learners are introduced to apply suitable learning strategies that are depicted in the curriculum. The teacher needs to show learners clear

instructions on what learners have to follow to become self-directed learners and achieve the final goals. The second phase is 'involvement', which connects learners' awareness and their sense of responsibility for choosing learning materials. In the third stage, ‘intervention’, learners can proactively adjust the learning goals, contents, and tasks. With the three first steps, learners make use of their chances to realize their learning goals and get involved in the learning process. When it comes to the fourth step, ‘creation,' learners are able to create new things, contents, or activities with the knowledge they have learned. Learners, in this stage, are allowed to create new goals, contents, or activities from the tasks in the textbook. Furthermore, learners exchange and discuss their ideas with their friends or ask the teacher for help in case they have difficulties. The last phase is time for learners to produce what they have learned so far through real-life situations. Learners can rehearse previous knowledge and language skills beyond the classroom and build up a close collaboration with the teachers and their classmates.

The role of teachers and peers in learner autonomy

It is undeniable that the teacher has a potentially significant role in guiding in-class activities and leading the usefulness of learner autonomy (Lamb & Reinders, 2008; Oxford, 2015; Gao, 2018). The teacher takes full advantage of a role as a supporter and facilitator to cultivate learner’s readiness and willingness and make them become autonomous learners (Blidi, 2017) and more responsible and independent in the learning process (Wang, 2021). Readiness, according to Sinclair (2000), includes certain knowledge of different things in terms of the learner's responsibility, learning context, subject contents, and learning process. In another broader sense, Littlewood (1996) asserted that learners show their readiness or willingness for autonomous learning in connection with psychological and metacognitive features. What is more, learners' motivation, along with their psychology and metacognition, is a crucial factor influencing the eagerness for learner autonomy (Sinclair, 2000).

Similar to the previous authors, Benson (2011b) acknowledged the teacher’s supportive and valuable role in promoting learner autonomy. He highlighted that the teacher is not only “a facilitator, counselor” but also “a consultant, helper, coordinator, adviser and knower” (p. 185). A teacher is a person who brings ideas about language to students and strengthens their motivation to learn.

Chang (2020) pinpointed that students are a key to the success of learner autonomy. Besides the assistance from the teacher, students must develop a sense of responsibility for their own learning. They learn how to be in charge of dealing with task assignments, choosing learning materials, recognizing their progress and evaluating their improvement. Fostering their learner autonomy to the fullest extent requires them to learn in collaboration with their teachers and with their fellow students as well. As Furnborough (2012) stated that the way students react depends on the process they work with their peers. The more enthusiastic support students gain from their peers, the faster they make progress. Moore (2007) also indicated that higher-level students focus better on learning and support their peers to boost their autonomous learning more effectively. Peer support is a contributory factor in promoting learner autonomy in a collaborative environment (Ushioda, 2007, as cited in Malcolm, 2011). In a learning environment, it requires that students and teachers work collaboratively to create effective learner autonomy (Kartal & Balcikanlic, 2019).

Learner autonomy outside the classroom

As mentioned above, learning upholds its effectiveness when it takes place both in class and out of class. The ability to specify the learner's objectives and outside-class activities is a significant and necessary element of learning autonomously. Benson (2007) suggested the concept of beyond-the-classroom learning is inevitable in real teaching and learning. Similarly, Reinders (2011) and Benson (2011b) indicated that students can improve their language proficiency when they combine and balance out-of-class activities with classroom learning efficiently. Out-of-class activities, known as after-school activities, play an important role in creating good opportunities to learn and rehearse foreign languages (Benson, 2011b). Moreover, beyond-the-class learning is considered successful if it meets the requirements of essential conditions, including motivation, learning resources, and learning skills. If one of these conditions does not exist, it ultimately causes an interruption in the learning process (Bailly, 2011). Learners, therefore, should be encouraged to develop those conditions to achieve the best results. Besides, learners need to keep in contact with their teacher outside the class, although the teacher plays the role of instructor and facilitator so that they can deal with difficulties that they encounter.

Mobile-assisted language learning (MALL)

MALL is defined as "language learning that is assisted or enhanced through the use of a handheld mobile device" (Chinnery, 2006, p. 9). Isamiddinovna (2019) indicated that MALL is considered a promising technology approach for learning a foreign language. MALL is different from traditional learning because learners can conveniently interact with mobile devices anytime and anywhere (UNESCO, 2013; Simonova, 2015). There are a variety of mobile applications which provide learners with useful and informative knowledge.

Language learning through mobile devices has brought tremendous benefits to learners in both formal and informal learning contexts (Kukulska-Hulme & Shield, 2008). Additionally, mobile-assisted learning allows learners to access learning resources easily and quickly with no cost or even free in charge (Pengnate, 2018). Learners also make a convenient connection with their teacher and peers without any time and space constraints (Ahmad et al., 2013; Duman & Orhon, 2015) and provide quick and timely feedback (Sung et al., 2015). Thanks to these advanced tools, learners can boost interactivity, collaboration, and real contexts with other people (Jing, 2018). Li (2021a) added that using mobile devices to support learning can mitigate the limitations of traditional classroom instructions. Many authors indicated in their studies that MALL can improve learners' listening comprehension effectively (Liu et al., 2018; Tai & Chen, 2021).

Mobile devices are essential for learners at tertiary education because of its considerable benefits. Mobile applications are made to aid learners in developing their language skills as well as language areas. Applications of technology used in the classroom have become increasingly prevalent because the number of people using mobile applications keeps growing (Hussein, 2017; Liu & Li, 2010; Ngo & Gim, 2014). Besides, some research showed elements influencing learners' attitudes towards mobile applications, including perceived usefulness, ease of use, trust, context, character, and personal qualities (Hamidi & Chavoshi, 2018). With the recognition of the advantages of mobile applications, learners feel eager to make use of their

functions with the purpose of serving their learning in an effective way.

Nevertheless, mobile learning does have some certain demerits, such as the overload of information, the impact of outside factors, and the complexity in designing learning activities (Rogers & Price, 2009). Learners, hence, decrease their collaboration and interaction with each other. Zhang (2019), on the other hand, mentions the weak internet problem which hinders learners from accessing learning resources. Likewise, Alrefaai (2019) showed that small screen sizes, distractions, the accuracy of information, health problems and getting bored are main problems learners face during the process of interacting with mobile learning.

The benefits of using mobile-assisted learning applications in learning listening

Listening skill has become easier for learners if they can exploit the maximum of mobile listening applications. As Elkhafaifi (2005) and Kao (2006) asserted that, learners have more opportunities to interact with authentic materials, interesting inputs from native speakers, speeches, and presentations of well-known speakers on these applications to improve their listening comprehension. Furthermore, many researchers who have conducted to investigate the benefits of using mobile applications in improving listening skills so far in different learning contexts. For instance, one study conducted by Al-Shamsi et al. (2020) indicated that their students significantly improved their listening ability after the application of a mobile learning strategy. They also affirmed they gain many great benefits with such a mode of learning in terms of the development of listening comprehension and the retention of vocabulary. Syamsir (2022) emphasized that students can strengthen their listening skills and autonomous learning after using MALL such as applications of podcasts. Back to the Vietnamese context, Tran et al. (2020) carried out a study with the aim of discovering how MALL supports students' autonomous learning via out-of-class activities. Its findings affirmed the advantages of MALL (Google-classroom) in increasing learner autonomy, in particular, engaging students' collaboration and social interaction in the beyond-the-class activities. More importantly, students raise their readiness and willingness to deal with every situation. Recently, Le and Duong (2023) speculated and delved into students' attitudes toward using mobile applications to boost their listening skills. This study shed light on the usefulness of mobile applications in general. In detail, students practice listening skills at a convenient time and place. Students can use mobile applications to learn listening inside and outside the classroom. Although using mobile applications causes procrastination, students feel satisfied with its convenience.

These previous researchers studied mobile learning and applications in general. There is no research profoundly investigating specific listening applications on mobile devices. This study attempts to demonstrate the advantages as well as disadvantages of using mobile-assisted learning applications (i.e., Listen English Daily Practice, LearnEnglish Podcasts, and VOA Learning English: AI^{+}) to develop learner autonomy in listening classes.

Research Questions

To fulfill the purpose of the study, the survey was seeking to answer the following research questions:

1. To what extent can mobile-assisted applications help students at People's Security University improve their learner autonomy's responsibility in listening classes?

2. How can the mobile-assisted applications help students at People's Security University improve their learner autonomy outside the classroom?

Methods

Pedagogical Setting & Participants

The study was conducted at People's Security University, Ho Chi Minh City. In particular, the sample consists of 36 full-time students coming from the course D30. The participant description was illustrated in the following table.

Table 1.

The description of student participants

Total number of student participants (N = 36)			
Characteristics		**Frequency**	**Percent**
Gender	Female	4	11.1%
	Male	32	88.9%
Years of English learning	below 5 years	2	5.5%
	6 to 10 years	19	52.8%
	over 10 years	15	46.7%
Listening ability	not very good	15	41.7%
	not good	13	36.1%
	good	6	16.7%
	very good	2	5.5%

As it is presented in the table, the number of male students is much higher than that of female ones. The students who learn English from an early age occupy a relatively high proportion; that is, 52.8% of the students have 6 to 10 years of learning English, and 46.7% of them experience over 10 years of learning. The figures also show that more than three-fourths of the students admitted that they are bad at listening skills, while only approximately one-fifth feel confident with their listening ability.

Design of the Study

The study employed a mixed methods design, incorporating both qualitative and quantitative data collection and analysis methods. Flick (2014) argues that utilizing a mixed methods approach enhances the reliability of research findings by leveraging the complementary nature of qualitative and quantitative data. Creswell (2014) defines a mixed methods research design as "a procedure for collecting, analyzing, and mixing both quantitative and qualitative methods in a single study or a series of studies to understand a research problem" (p. 535). In this particular study, a set of questionnaires was utilized to collect quantitative data, while the set of class observations and interview responses were analyzed to gather qualitative data. By employing a combination of these methods, the study aimed to provide a comprehensive

understanding of the research topic.

The description of three mobile-assisted learning applications

The three mobile-assisted applications include Listen English Daily Practice, LearnEnglish Podcasts, and VOA Learning English: AI+. Firstly, these applications are created by reputable and famous educational institutions. These applications contain a vast amount of knowledge that originated from different resources with free-of-charge access. Undeniably, educators devoted their time and effort to establishing great listening exercises on these applications. Secondly, students have good chances to interact with authentic materials and listen to a variety of native speeches. More importantly, they can adjust the speed of speakers to their listening ability. This trait helps them customize the listening tasks corresponding to a specific level in each application to suit their needs. Last but not least, students seize the opportunities to practice distinct listening task types to assist them in both current learning and coming exams.

Data collection & analysis

The data collection was conducted during and after a two-month experimental teaching. The data was gathered using three main research tools, namely a series of observation sheets, a set of questionnaires and a collection of student interviews. In particular, the pre-questionnaire was distributed to students to gather personal information, information about listening difficulties, and general information relating to mobile-assisted learning applications. Besides, observation sheets were noted down by another teacher while the teacher instructed the usage of mobile-assisted applications in listening classes. Then, the post-questionnaire was delivered to investigate students' learning responsibilities before and after the use of the listening applications as well as find out the frequency of out-of-class activities. Moreover, the collaboration between students with their teacher and peers was also shed light on as research results. Finally, semi-structured interviews were conducted to gain in-depth insight into learner autonomy attributes from 9 out of the students.

In the current research, both qualitative and quantitative data were collected and analyzed to arrive at the final research findings. First, observation sheets were analyzed precisely to support the research findings. After that, the learners' responses from the questionnaires were also statistically processed using the Statistical Package for the Social Sciences (SPSS) version 20 to display the central tendency measure (means), and variability measures (standard deviations). Finally, participants' responses to interview queries were grouped into themes to support the analysis process. Besides, students' documents were integrated to analyze and provide a comprehensive picture of the mobile-assisted applications.

After the analysis of the collected data from the different tools, the data triangulation method was used to compare, integrate, and interpret the results to validate the findings, decrease bias, and ensure the credibility of the current research.

Findings and discussion

Findings of the study

Students' responsibility for listening learning through mobile-assisted applications

After the delivery of the pre-questionnaire, data collected was analyzed to confirm difficulties facing students in listening skills. Besides, students shared learning resources they normally use to practice listening skills. The pre-questionnaire exploited students' information on using mobile-assisted learning applications. The descriptive statistics are presented precisely in the following table.

Table 2.

Students' difficulties in learning listening skills

Items	N	No. of Responses	Percent
Lack of vocabulary	36	33	91.7%
Speed and accents of speakers	36	36	100%
Poor pronunciation	36	32	88.9%
Quality of recorded materials	36	35	97.2%
Anxiety	36	31	86.1%
Length of listening text	36	29	80.6%
Lack of concentration	36	29	80.6%
Complicated grammatical structures	36	30	83.3%
Cultural differences	36	22	61.1%
Others	36	7	19.4%

As can be seen from the table, the students highly agreed that they have lots of difficulties in learning listening, such as the highest proportion of agreement in the speed and accents of speakers (100%) and the quality of recorded materials (97.2%). The percentage of different cultures received the lowest rate with 61.1%. 19.4% of the students added that they encounter some obstacles, such as outside factors and low interest.

When answering for the learning sources in listening skills, many of the students prefer films and music (nearly 100%) than the other approaches because of its interesting contents. Mobile applications received the least responses (25%). The detailed numbers are displayed in the following table.

Table 3.

The descriptive statistics of choosing listening resources (N=36)

Items	Class materials	Films and music	Entertainment programs	Online learning platforms	Mobile applications	Social networks
No. of responses	20	35	17	31	**9**	32
Percent	55.6%	97.2%	47.2%	81.6%	**25%**	88.9%

With the questions of collecting data from three given applications, all of the students have never heard of those applications. They noted down some other applications they have known so far such as ELSA, Duolingo with an aim of learning speaking skills. Therefore, they spend time learning applications that they already know.

Derived from students' learning background, the study was carried out to apply and investigate how effective the mobile-assisted listening applications are in learning listening and boosting students' learner autonomy and analyze the collected data from a set of observation sheets, the post-questionnaire and the interviews.

First and foremost, the researcher conducted six meetings in which the teacher introduced and instructed how to use the mobile-assisted applications in class and tested what they gained after learning with these applications. In the first section, the teacher arranged students and gave them a listening mini-test within 30 minutes, in which test inputs were extracted from these applications. The teacher observed the class strictly during the test, and the observer looked at them and took notes of a lot of anxiety in their faces. Each task in the listening test was played twice. Many of the students feel nervous because they cannot completely understand what the speakers say. As a result, they handed in their test paper in sadness. They told the teacher that, "The test is difficult and they cannot understand what the speakers are saying."

After the test collection, the teacher began to introduce the overview of three mobile applications to students, namely, Listen English Daily Practice, LearnEnglish Podcasts, and VOA Learning English: AI^{+}. The teacher described briefly but precisely the interface of these applications. The teacher also told the purposes of learning with these applications in and out of the classroom. Students feel curious about such applications and eager to find out about them.

The second session began with the first application, Listen English Daily Practice, with the teacher's careful preparation and instructions and the students' eagerness. The teacher showed this application on the slide and clarified what students can learn with listening sources, followed by low-to-high levels. Students nod their heads and express their satisfaction with smiles. Some students expressed this through verbal expressions such as "Oh" or "Wow, great." The teacher emphasized that in each level, students practice the multiple-choice task with four or five questions depending on the input of the listening task. Students were asked to listen to the first task of Level A entitled 'married life' and chose the answer for the four questions at the same time. After checking the answers, many students felt more confident because they could choose the questions correctly. The teacher introduced some typical features of this application, such as adjusting the speed of the speakers. If the students cannot listen at the normal speed, they will choose a slower speed to suit their listening ability. The teacher required students to note down new words and strange structures in their notebooks. At the end of this section, the teacher asked students to practice at least three tasks of each level, capture the result images, and hand them to the teacher at the end of the fifth session.

The two next sessions were for the other applications. The teacher asked how the students completed their homework. All of them responded enthusiastically that they accomplished quite a large number of listening tasks at each level. Some of them stand up and say, "Teacher, in these tasks, there are many idioms that make me misunderstand". The teacher explained and

encouraged them to continue their process. After exchanging the queries of the previous applications, the teacher introduced and guided in a similar way about the usage of the application 'LearnEnglish Podcasts' and 'VOA Learning English: AI^{+}'. From observation sheets, students expressed more interest and motivation in learning listening. They could confidently give an answer to the teacher. When being asked to explain the new words, students could respond in a quick and exact way. They raised their hand and contributed to the lessons actively and energetically. Some students were outstanding in showing keywords relating to the listening tasks. Some students even showed the teacher what they created in their notebooks to help them remember the vocabulary. The learning sessions happen in a dynamic and intimate atmosphere in which students feel free to ask students what they did not comprehend without pressure and receive constructive feedback from the teacher.

The fifth section was the synthesis of using three applications. In this session, the teacher spent the whole time supporting and answering students' questions. The teacher let students work in groups and share what they had learned from these applications and what difficulties they had with their peers. Students showed their notebooks of everything they noted down with their friends and began discussions. After a 30-minute discussion, students stood up and raised some thoughts about these applications. Some others shared the ways they sincerely interact with the applications outside the classroom. Some questions were raised to ask the teacher for help. The teacher was willing to help students with their difficulties beyond class via Zalo or Messenger. The teacher asked students to study carefully and prepare for the mini-test in the sixth session.

At the last session, students listened to the teacher's feedback based on images that students submitted via Gmail and students' notebooks. The teacher gave compliments on the students' devotion and effort. The teacher showed the slides of students' images of the listening tasks and asked them about the wrong answers. Students shared the reason why they gave the incorrect answer and listened again to comprehend that task. Some students shared that they spent more time listening than before and did not worry anymore. After that, the teacher gave students a paper mini-test to check their progress. As soon as they received the test, they underlined or circled the keywords quickly. Students focused on listening and even chose the answers for the first time while listening to the recording. The anxious expressions on their faces gradually faded, and they handed in their paper test to the teacher happily. After the test, students completed the survey relating to these mobile-assisted applications.

Regarding students' responsibility in learning listening through mobile-assisted listening applications, it is clear from the data analysis in Table 4 that there is a significant change in the student numbers who can decide their progress and learning records, gaining the maximum number of students. Specifically, before using applications, 17 students (47.2%) knew how to define their listening development, whilst all of the students checked their listening progress after using the listening applications. Notably, fewer students saved their learning results before, with 5 students (13.9%) compared with the later time of using the applications. Students who initially do not apply adequate listening strategies are at a low rate (22.2%), followed by those who cannot decide the amount, type, and frequency of the homework amount (36.1%). However, these numbers have changed substantially after the implication of applications. Generally speaking, the proportion of the students who can

decide their learning responsibility for different aspects has an upward trend and receives positive responses.

Table 4.

Students' responsibility for learning listening through mobile-assisted listening applications

No.	Items	N	Before using applications (%)		No.	After using applications (%)	
			Yes	No		Yes	No
1	To decide your goal in learning listening skills in one semester	36	77.8%	22.2%	**11**	94.4%	5.6%
2	To check how much progress you make	36	47.2%	52.8%	**12**	100%	0%
3	To keep record of your studies such as assignments, mini test scores, listening result images	36	13.9%	86.1%	**13**	100%	0%
4	To decide the learning materials or resources to learn listening skills	36	50%	50%	**14**	88.9%	11.1%
5	To decide your favorite listening topics and activities	36	52.8%	47.2%	**15**	83.3%	16.7%
6	To decide the suitable listening level for your ability	36	44.4%	55.6%	**16**	86.1%	13.9%
7	To decide the suitable speed of the listening tasks	36	44.4%	55.6%	**17**	91.7%	8.3%
8	To decide to do the amount, type and frequency of listening homework	36	36.1%	63.9%	**18**	80.6%	19.4%
9	To decide the difficulties you have in learning listening skills	36	61.1%	38.9%	**19**	100%	0%
10	To decide the learning methods to overcome your difficulties in listening skills	36	22.2%	77.8%	**20**	97.2%	2.8%

Students gave profound answers to the interview queries. When giving responses to the question, "In which activities did you change your learning responsibilities most significantly?", many of the students (S2-S9) shared that they were not in the habit of keeping learning results or learning images of knowledge before because "*I don't think it is necessary and important (S5)*". However, they recognize that they should save listening notes or images after using those activities. The other student (S1) added, "*I usually capture the images of listening texts with good contents only. I think I will read it again someday*.". Moreover, five out of nine students (S3, S4, S7, S8, S9) affirmed that they could self-evaluate their development in learning listening skills compared with the previous time, namely, "*I can listen to difficult words, some linking words, and use some listening strategies.*" Or "*I can give more correct answers for the listening tasks.*". Although the inputs in mobile listening applications are various, students know how to choose suitable topics that suit their needs (S2, S4, S8). Thanks to these applications, all of the students spent more time a day listening to the tasks and taking notes of important and useful knowledge whenever they had free time.

Learner autonomy beyond the classroom

Learner autonomy upholds its effectiveness when students participate actively in out-of-class activities and collaborate with other people. Firstly, the coded data from outside activities were analyzed statistically and displayed as follows:

Table 5.
The descriptive statistics regarding outdoor activities using mobile-assisted listening applications

	N	Min	Max	Mean	S.D
21. To read grammatical points	36	2	5	3.61	.871
22. To read different vocabulary topics	36	2	5	3.75	.874
23. To listen to news, short talks and programs about various topics	36	3	5	3.92	.649
24. To do assignments which are not compulsory	36	2	5	3.78	.832
25. To note down new words and their meanings	36	2	5	3.75	.841
26. To note down necessary grammatical structures	36	2	5	3.36	.867
27. To note down idioms, slangs used in listening texts	36	2	5	3.22	1.017
28. To practice pronouncing incorrect words	36	3	5	4.14	.683
29. To use dictionary to look up the new words	36	3	5	4.19	.786
30. To practice learnt knowledge with peers	36	1	5	2.89	1.116

As can be seen in the above table, students express their distinct frequency in doing different out-of-class activities. Overall, students are in favor of taking part in those activities that aid them to engage in listening tasks. Students agreed that they usually make use of the dictionary to learn and practice pronouncing the new words with the highest means (M=4.14 and M=4.19). The item gaining the lowest mean (M=2.89) belongs to the group learning with their friends. Nevertheless, this item received a disparity in the participants' responses. It is apparent that the students gave a widely different response to this item.

When answering the second interview question about their favorite activities outside the classroom using mobile listening applications, most of the students shared that they prefer reading interesting topics relating to sports, health, and music. One of them (S2) said, "*I choose familiar topics to read and note down new words in my notebook. I like the topics that I can use in my real life*." Another student (S7) added, "*I capture the list of favorite vocabulary words and save them on my smartphone to read later*." Moreover, most of the students shared that they note down idioms, sentence structures, and pronunciation of difficult words (S1-S4; S6-S9). Many of them admitted the dictionary's usefulness in supporting them, correcting their mistakes, and upgrading their pronunciation. The third interview question elicits students' preference in choosing one application they use the most frequently. The responses are quite different from the participants. In detail, five of the students (S2, S3, S4, S5, S8) prefer using Listen English Daily Practice because of a wide range of topics and proficiency levels. S2 said that "*Listen English Daily Practice App has the arrangement of the topic and exercises which are more interesting than the others. Besides, this application has fewer advertisements than the other apps.*" One student (S1) has a preference for LearningEnglish Podcasts because he

was familiar with the podcast topics about "health, sports, the film." The other students (S6, S7, S9) favor VOA Learning English: AI+ due to its updated information and its usefulness. One of them said that, *"The speaker doesn't speak too fast, so it's suitable for me. (S9)".* He also noted that "*This application integrates the dictionary and I can click to the new word, and it is pronounced and presents its Vietnamese meaning. It's perfect.* (S9)" This idea is in favor of two more students (S6, S7) who really like the function of the dictionary in this app. Additionally, one student showed that "*The listening tasks in this application are quite suitable for my ability, and its design is easy for me to approach. (S7)*".

In the interview, students shared their opinions about the applications' drawbacks. All of the students responded that these applications contain many advertisements, which annoyed and distracted students during their interaction with these applications. Some of the students interviewed pointed out that some structures and vocabulary on LearnEnglish Podcasts are complicated for them to comprehend (S2, S9). Another share of slow loading of LearnEnglish Podcasts and VOA Learning English: AI+ hinders students from accessing the inputs (S5, S7). These students added that using an iPhone with iOS to download these applications from the App Store is more difficult than using Android. The other students gave similar opinions relating to Wi-Fi connection, lack of storage, or abundance of advertisements. One student (S6) added that he was easily bored with the Listen English Daily Practice and LearnEnglish Podcasts applications because of their unattractive interface.

Besides the beyond-the-class activities, the collaboration between students with the teacher and with their peers plays a vital role in promoting learner autonomy, and the data are depicted precisely in Table 6.

Table 6.
The descriptive statistics of students regarding collaborating with their teacher and peers

	N	Min	Max	Mean	S.D
31. To ask the teacher questions when you do not understand	36	1	4	2.97	1.000
32. To make suggestions to the teacher	36	1	3	1.53	.774
33. To self-study with friends	36	1	5	3.56	1.107
34. To discuss learning problems with friends	36	1	5	3.78	1.017
35. To share effective listening strategies with friends	36	1	5	3.61	.934

The table data clearly shows that students seldom make any suggestions to the teacher, with the lowest mean (Mean=1.53), while they choose the discussion with their fellow students (Mean=3.78) or self-study with their friends (Mean=3.56). Students often share effective listening strategies to aid their friends during the learning process. Besides, when students have difficulties with their learning, they ask their teacher for help or assistance.

From the interview question of collaborating with their teacher and peers, nearly half of the students responded that they asked their friends before. They contact their teacher to help clarify if the task contents are difficult. S7 said, "*I often ask my teacher because my friends cannot understand the important content in these applications*." Some of the students gave opinions that "*I ask my teacher how to apply what I learned in the listening applications to real-life*

situations effectively. (S3)" and "*I ask my teacher to explain the way of using vocabulary exactly and the hidden meaning of difficult vocabulary and idioms.* (S9)". In contrast, some students (S1, S2, S4, S6) gave similar responses that they work with their friends with difficult content or search Google to comprehend what they need clarification on. Two of the students (S5, S8) indicated that they do not receive the teacher's observation and feedback outside the classroom. In general, students can merely develop their ability and comprehension provided that they do not feel shy about sharing what they do not know with their peers and teachers.

From the students' collected documents, they displayed complicated patterns, difficult grammatical structures, and strange vocabulary and idioms in their notebooks. They wrote them down in order to remember and review them later. Their ways of noting important points are similar to each other and arranged in a systematic order of levels.

In general, all of the results from the research tools support and help to understand the effectiveness of mobile-assisted applications.

Discussion

It is easily seen from the data analysis of the pre-questionnaire that students encounter a wide variety of listening problems, such as vocabulary deficiency about different topics and pronunciation limitations. Moreover, students shared that they feel nervous when listening to long texts because they cannot comprehend the speaker's words. Cultural factors affect students' listening comprehension more or less. Besides, there are some reasons, such as outside factors or the low quality of recorded materials. These results are in accordance with the listening disadvantages some authors mention in the first section (Hamouda, 2013; Assaf, 2015).

From the post-questionnaire, the observation sheets and individual interviews can promote learner autonomy in terms of their learning responsibility, beyond-the-classroom activities, and the collaboration of students with their teacher and peers.

With regard to students' responsibilities for deciding all that they have to do to achieve their learning goals, students know how to choose the listening materials that suit their abilities. In addition, students can choose topics or news that appeal to them and get them involved in the listening content. Students also recognize their listening limitations and find suitable ways to overcome them. Since then, they can evaluate how they develop their listening competency or complete the tasks on these listening applications. These findings are consistent with Benson's (2011) concept regarding the learner's responsibility for learning objectives. Students build up more autonomous learning than before by deciding on learning activities.

The notes from observation sheets expressed the engagement, eagerness, and curiosity of students in class. They feel quite excited and interested in these listening applications and follow the teacher's instructions strictly and carefully. The teacher gave constructive feedback and detailed explanations to support students as much as possible. Thus, students are motivated to study, experience, and take advantage of the benefits of listening applications. This result is quite similar to the results from Vo's (2023) and Phan's (2023) research that learning through mobile devices stimulates students in learning positively and strengthens students' collaboration inside and outside class.

In terms of interaction with the listening applications, students used different activities on these applications to exploit useful knowledge, learn about new content, and practice the listening task types. Students attempt to practice learned knowledge from the applications to work with their friends in real-life contexts. This is a good chance for them to increase motivation when learning a foreign language. This finding is closely linked to Benson's (2011) and Benson's (2011b) theory displayed in the second section. In out-of-class activities, students' roles are very important because they are decisive and self-reliant to stay away from all temptations around them. The teacher played the role of facilitator and constructor to respond to what they were wondering. The roles of the teacher and students depicted in the results are relatively compatible with Chang's (2020) discussion about the role of students in promoting learner autonomy. However, students face some problems when learning on these listening applications, including the overload of the application's input, the interference of advertisements, the limitation of vivid design, and the poor wifi connection. These drawbacks are similar to what Roger and Price (2009), Zhang (2019) and Alrefaai (2019) indicated in the previous section.

In connection with collaboration, students, along with their peers, discuss confusing problems together so as to help them understand comprehensively. Students asked their teacher for help in case their peers could not assist. They were willing to share their problems with friends as well as effective strategies to help each other better in learning listening. Active collaboration helps students increase their interaction with friends and their teacher and strengthen their autonomous learning.

Conclusion

In conclusion, thanks to the use of mobile-assisted learning applications in listening classes, students in the study boost their learner autonomy effectively. First and foremost, they decide what they must do to fulfill the learning objectives. They can choose the listening resources and pace which is suitable for their ability. Moreover, after a period of learning, they self-evaluate what they have learned from their time and effort. With out-of-class activities, students have more opportunities to practice their listening strategies, learn to take notes of necessary knowledge and rehearse the knowledge in real practice. These activities open wide space for students to develop collaboration between students and the teachers and among students. They experience dynamic moments of heated discussions and find optimal solutions or strategies.

Some limitations do exist in the current research, including the limited number of participants (only 36 students) and the research context. With those mentioned limitations, the research findings cannot be generalized and merely suitable in this context. Another limitation is the skill research focuses solely on listening skills. In addition, the current research cannot clarify how the gender factor affected the outcomes. For further research, the number of samplings should be increased to ensure the objectivity of the research findings. Moreover, the research needs to involve a broader choice of students from different training degrees, such as transfer students or second bachelor's degree applicants, in order for the results to be more convincing. Last but not least, the factor of gender would be analyzed in each aspect of learner autonomy to display

the disparity in terms of gender toward research results.

Nevertheless, learning through mobile-assisted applications cannot avoid certain difficulties. Thus, teachers first need to encourage students to motivate them to continue promoting their autonomous learning. Teachers also need to design more language-related activities on listening learning applications to make students feel more interested and avoid boredom. Last but not least, teachers find out more about the problems students are facing, such as difficulties with vocabulary and listening contents, to provide them with appropriate solutions promptly.

Students, on the other hand, raise their awareness of listening skills first. They themselves equip effective strategies to support them to complete the listening tasks. Moreover, when they have any technical problems, they ask their friends for help to mitigate their disadvantages. Learner autonomy is an indispensable element for students to achieve the best learning results. Hence, they uphold their learning responsibility by learning with listening applications.

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